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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/639,461	08/13/2003	Gordon Yu	YUGO3008/EM	5734
23364	7590	05/04/2005		EXAMINER HARVEY, JAMES R
BACON & THOMAS, PLLC 625 SLATERS LANE FOURTH FLOOR ALEXANDRIA, VA 22314			ART UNIT 2833	PAPER NUMBER

DATE MAILED: 05/04/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)
	10/639,461	YU ET AL.
	Examiner	Art Unit
	James R. Harvey	2833

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) Responsive to communication(s) filed on 14 April 2005.

2a) This action is **FINAL**. 2b) This action is non-final.

3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) Claim(s) 1-5 and 7 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) Claim(s) _____ is/are allowed.
6) Claim(s) 1-5 and 7 is/are rejected.
7) Claim(s) _____ is/are objected to.
8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) The specification is objected to by the Examiner.

10) The drawing(s) filed on 26 October 2004 is/are: a) accepted or b) objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) All b) Some * c) None of:
1. Certified copies of the priority documents have been received.
2. Certified copies of the priority documents have been received in Application No. _____.
3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) Notice of References Cited (PTO-892)
2) Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
4) Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
5) Notice of Informal Patent Application (PTO-152)
6) Other: _____.

DETAILED ACTION

Claim Cancellations

** The cancellation of claim 8 by applicant has been made of record and to avoid any confusion, it is noted that claim 6 was previously cancelled in a prior communication by applicant.

Claim Objections

Claims 1-5 and 7 objected to because of the following informalities:

-- In reference to Claim(s) 1, the recitation “on the other surface” is not clear and precise because the circuit board is seen as an elongated cube defined by six side surfaces. For purposes of examination, it is assumed that the language is intended to mean “on [the] another surface”.

An examination based on the merits, as best understood, is addressed below.

-- Appropriate correction is required.

Claim Rejections - 35 USC § 103

- The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

** Claim(s) 1-3, and 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Long et al. (20003/0028797) in view of Tirosh (6618243), further in view of Weber et al. (5920459) and yet further in view of Sobhani (5213511).

-- In reference to Claim(s) 1, Long shows (cover sheet)

a substrate having a circuit board part 400 and a connecting head (near the lead line of numeral 414; (cover sheet)) extended from the circuit board part 400, wherein the connecting head is arranged with a plurality of contacts (406, 408) for electrically connecting to an external electronic apparatus;

at least one electronic component 402 (paragraph 50) mounted on a surface of the circuit board part 400;

a metal shell 600 (cover sheet) having an opening at the connector for coupling to the external electronic apparatus.

However, Long does not show a metal case housing the substrate and the electronic component. The housing of Long that houses the substrate and the electronic component is made of plastic.

Tirosh teaches that the housing can be made of plastic or metal (column 5, lines 35-37).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the teachings of Tirosh to improve the arrangement of Long because making the housing out of metal protects the electrical components from electromagnetic interference.

Further, none of the above references shows mounting additional electrical components to another surface of the printed circuit board.

Weber shows (cover sheet) and (column 2, lines 39-43) electrical components mounted to another surface of the printed circuit board (light emitting diodes are mounted to the top surface and connectors 86 and 88 are mounted to the bottom surface).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the teachings of Weber to learn that mounting additional LED electrical

components to another surface of Long's printed circuit board is possible. One skilled in the art would have been motivated because, as taught by Weber (column 2, line 43), the LEDs are an important addition because they indicate the operating status of the other components on the printed circuit board.

Yet further, neither Long, Tirosh or Weber teach mounting the electronic components using chip On Board mounting process.

Sobhani teaches that Chip-On Board technology is an improvement over conventionally solder connections (column 1, line 65) and (column 1, line 28) respectively.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the connection arrangement of Long with the teachings of Sobhani because, as taught by Sobhani (column 1, 68) Chip-On Board methods improve electrical performance.

-- In reference to Claim(s) 2, Long as modified by Tirosh, Sobhani and Weber shows a small hollow object 300 for holding the micro-storage device thereby conveniently carrying the micro-storage device.

Tirosh also shows (cover sheet) a small hollow object 18 for holding the micro-storage device 12 (figure 10) thereby conveniently carrying the micro-storage device 12.

Even if Long had not shown the small hollow abject 300 it would have been obvious to one of ordinary skill in the art at the time the invention was made to use the storage device shown by Tirosh with the arrangement of Long because, as taught by Tirosh (column 1, line 26) the storage device makes it convenient for transporting the electrical component and connector.

-- In reference to Claim(s) 3, Long as modified by Tirosh, Sobhani and Weber shows the small hollow object is a personal adornment (column 1, line 31 of Tirosh).

-- In reference to Claim(s) 5, Long as modified by Tirosh, Sobhani and Weber shows the claimed invention. In particular, Tirosh shows the structure is a personal adornment (column 1, line 31) and has the same structure that it can function as a tie clip. Further, the meaning of "tie clip" is so broad that it is met by the applied reference showing an ornament the can function to hold ends of a necktie to a shirt front (see the attached definition from The American heritage Dictionary).

** Claim(s) 4 is/are rejected under 35 U.S.C. 103(a) as being unpatentable over Long as modified by Tirosh, Sobhani and Weber and further in view of Dierking (5775485).

-- In reference to Claim(s) 4, Long as modified by Tirosh, Sobhani and Weber shows substantially the invention as claimed.

However, the references do not show the personal adornment is a necklace. Tirosh shows ring 22 is a key ring, but does not mention the recitation necklace.

Dierking teaches that ring 14 can be for a key ring or a necklace.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the ring 22 of Tirosh as a ring for a necklace because, as taught by Dierking (abstract, line 13), it lessens the chance of losing the contents or to facilitate simple removal of the contents (column 1, line 46).

** Claim(s) 7 is/are rejected under 35 U.S.C. 103(a) as being unpatentable over Long as modified by Tirosh, Sobhani and Weber and further in view of Anderson (5973734).

-- In reference to Claim(s) 7. Long as modified by Tirosh, Sobhani and Weber shows substantially the invention as claimed. However, neither of the references discuss the electronic component comprises a non-volatile memory to store data.

Anderson teaches the use of non-volatile memory (column 4, line 65).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the arrangement of Long as modified by Tirosh with the non-volatile memory teachings of Anderson because, as taught by Anderson (column 5, line 1) non volatile memory typically stores instructions to control the external electronic apparatus.

Response to Arguments

-- In response to applicant's assertion (page 6, lines 15-20) that is seen to imply that applicant's own teachings is used to modify Long's metal shell 600, the examiner disagrees. Tirosh provides the teaching that the housing 300 of Long can be metal (column 5, lines 35-37) and the motivation as to why one skilled in the art would have been motivated to change the housing 300 of Long to metal is to protect the electronic components from electromagnetic interference. A careful review of applicant's disclosure is not seen to address any of the benefits of protecting electronic equipment from electromagnetic interference. Therefor, applicant's are not seen to have any merit.

Conclusion

- Any inquiry concerning this communication or earlier communications from the examiner should be directed to James R. Harvey whose telephone number is 571-272-2007. The examiner can normally be reached on 8:00 A.M. To 5:00 P.M.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Paula A. Bradley can be reached on 571-272-2800 extension 33.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 571-272-2800.

- Effective **October 1, 2003**, all patent application related correspondence transmitted by facsimile must be directed to the central facsimile number, **(703) 872-9306**, with a few exceptions. *See Fax Automation in Technology Center 1700, 1237 Off. Gaz. Pat. Office 140* (August 29, 2000). Replies to Office actions including after-final amendments that are transmitted by facsimile must be directed to the central facsimile number. Unofficial correspondence such as draft proposed amendments for interviews may continue to be transmitted by facsimile to the Technology Centers. *See Fax Automation in Technology Center 1700, 1237 Off. Gaz. Pat. Office 140* (August 29, 2000).

James R. Harvey, Examiner

jrh

April 29, 2005

A handwritten signature in black ink, appearing to read "JRH HARVEY". The signature is fluid and cursive, with "JRH" on top and "HARVEY" below it. It is written over a horizontal line that extends from the left and curves down to the right.